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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,646	06/25/2003	Albert Maurer	6959-01	2748

7590 10/13/2005

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EXAMINER
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WILLOUGHBY, TERRENCE RONIQUÉ

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 10/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/603,646

Applicant(s)

MAURER ET AL.

Examiner

Terrence R. Willoughby

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-14 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 06/25/2003
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 5 is objected to as being indefinite for failing to particularly point out and distinctly claim the subject matter applicant regards as the invention.
2. Claim 5 recites the limitation "external of the inverter" in line 3 of claim 5. There is insufficient antecedent basis for this limitation in the claim. It is unclear and not understood if the current source is completely separated from the inverter or if the current control source is part of the inverter externally. Also in claim 5 it recites "end current" in line 4 of the claim. Examiner interprets as being "zero current" or "no current".
3. Regarding claims 6 and 8 are objected because the claims are dependent upon claim 5.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Schergen et al. (US 4,360,854).

With respect to Claim 1, Schergen et al. teaches the claimed method for demagnetizing objects between two coils lying opposite one another

(Figure 1, Numeral 14 and 16) wherein the object is located within the region between the coils (Figure 1, Numeral 20) within an alternating field for a staying of time of a certain duration (Figure 6), and wherein the coils form a single series oscillation circuit which are supplied in a current controlled manner (Column 6, lines 8-13).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 2-10,12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schergen et al. (US 4,360,854) and in view of Steingroever et al. (US 4,384,313).

With respect to Claim 2, Schergen et al. teaches the claimed method according to claim 1. Schergen et al. lacks the claimed method wherein the staying time over the duration of the cycle lasts between 20 and 500 periods. However, it has been decided that where the general conditions of the claim are disclosed in the prior art, it is not inventive to discover the optimum or workable range by routine experimentations. In re Aller, 220F. 2d 454,456,105 USPZ 233,235 (CCPA, 1955). Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to know that the duration time cycle depends on hardness and thickness of the demagnetizing object. Therefore, the duration of time it takes to demagnetize an object can be predetermined and set by the user at his or her own discretion.

With respect to Claim 3, Schergen et al. teaches the claimed method according to claim 1, wherein the two coils are grouped together into single common coil (Figure 1, Numeral 12) and wherein the alternating field is produced within the coil. The two coils (Figure 1, Numeral 14 and 16) and the demagnetizing object within the region (Figure 1, Numeral 20) form one single common coil.

With respect to claim 4, Schergen et al. teaches the claimed method according to claim 2, but lacks the claimed method wherein the alternating field of the series oscillation circuit is reduced down from a nominal current to an end current by way of a control or a ramp function which is programmed in the inverter. However, Steingroever et al. teaches the claimed method wherein the alternating field of the series oscillation circuit is reduced down from a nominal current to an end current (Column 1, lines 46-49) by way of a control or ramp function, which is programmed in the inverter (Column 2, lines 48-66). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an inverter to control the change in the alternating field electronically and to help speed up demagnetization within the cycle.

With respect to claim 5, Schergen et al. teaches the claimed method according to claim 2, but lacks the claimed method wherein the alternating field of the series oscillation circuit is reduced down by way of a separate current control external of the inverter along a programmable ramp function from a nominal current to an end current. However, Steingroever et al. teaches the claimed separate current control (Figure 1, Numeral 6) external of the inverter along a programmable ramp function from a nominal current to an end current (Figure 7). It would have been obvious to one of ordinary skill

in the art the time the invention was made to use an voltage controlled oscillator circuit to control the output voltage of the phase detector, which oscillates pulses to the inverter to control current.

With respect to claim 6, Steingroever et al. teaches the claimed method wherein the alternating field of the series oscillation circuit is reduced down from a nominal current to an end current by way of an inverter (Column 2, lines 48-66) and the claimed method wherein the demagnetization curve (Fig.5-6) is influenced by additional supply of the series oscillation circuit by way of feeding with rectangular impulses (Fig. 7) by the separate current control (Column 2, lines 48-66).

With respect to claim 7, Steingroever et al. teaches the claimed method wherein the alternating field of the series oscillation circuit is reduced down from a nominal current to an end current (Column 1, lines 46-49) by way of an programmed inverter (Figure 1, Numeral 2). Schergen et al. teaches the complete demagnetization procedure between two or more coils in an oscillation circuit where current is reduced in successive steps, to a point at or near zero (Abstract, lines 2-5). Complete demagnetization occurs in the alternating field when zero current flows through the circuit resulting in a currentless, voltageless, and chargless circuit.

With respect to claim 8, Steingroever et al. teaches the claimed method wherein the alternating field of the series oscillation circuit is reduced down from a nominal current to an end current by way of an inverter. Schergen et al. teaches the complete demagnetization procedure between two or more coils in an oscillation circuit where current is reduced in successive steps, to a point at or near zero (Abstract, lines 2-5). It

would have been obvious to one of ordinary skill in the art the time the invention was made to combine Stenigroever et al. circuit with Schergen et al. to achieve complete demagnetization in the oscillation circuit.

8. With respect to claim 9, Schergen et al. teaches the claimed method device for a demagnetizing objects with a demagnetization station which comprises two coils which are present and which are arranged on opposites sides of a support cradles (Figure 1, Numeral 22) lying opposite one another, wherein the two coils are coreless and are connected in a single common series oscillation circuit (Figure 1, Numeral 12) and supplied by way of a current control (Column 6, lines 8-13) for producing an alternating field, and wherein the series oscillation circuit and the support cradles remains within an alternating field between the coils of the series oscillation circuit for a certain staying time (Abstract, lines 2-7). The support cradles, wheels, and suitable tracks (Figure 1, Numeral, 25) that Schergen et al. uses are adapted for supporting larger demagnetizing objects, for example, the bundle of rods (Figure 1, Numeral 20) which is not suitable for transporting on a transporting belt. It would have been obvious to one of ordinary skill in the art the time the invention was made to modify Schergen et al. demagnetizing apparatus to support smaller ferromagnetic parts, such as punched parts, turned parts, springs, tubes etc. by replacing the support cradle of Schergen et al. with a transport belt as recited.

9. With respect to claim 10, Schergen et al. teaches the claimed device according to claim 9, wherein the two coils are grouped together into a single common coil (Figure 1, Numeral 12), wherein the alternating field is produced inside of the common coil. The

two coils (Figure 1, Numeral 14 and 15) and the demagnetizing objects within the region (Figure 1, Numeral 20) form one single common coil.

With respect to claim 12, Schergen et al. teaches the claimed device according to claim 9, wherein the transport of the objects on the transport belt is effected in a cycled manner (Abstract, lines 5-7).

With respect to claim 13, Schergen et al. teaches the claimed device according to claim 9, wherein the transport belt effected in a cycled manner is performed in a start-stop (Figure 8, Numeral 156, 177, 174) way.

With respect to claim 14, Schergen et al. teaches the claimed device according to claim 9 and necessarily provides the method as recited in at least claim 1.

#### ***Allowable Subject Matter***

10. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: Claim 11 is allowable over the art of record because the prior art does not teach or suggest a pre-treatment station for demagnetizing magnetically hard locations in the object.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terrence R. Willoughby whose telephone number is 571-272-2725. The examiner can normally be reached on 8-5pm. If attempts to reach



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the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2058. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRW



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**PRIMARY EXAMINER**